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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,457	12/29/2004	Yasuyuki Suzuki	Q85448	2664

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

NGUYEN, LONG T

ART UNIT	PAPER NUMBER
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2816

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/519,457

Applicant(s)

SUZUKI ET AL.

Examiner

Long Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 2-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/11/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1, 13 and 14 are objected to because of the following informalities:

Claim 1, line 4, "comprising" should be changed to --forming-- (since "comprising the first data reading differential pair" as recited on line 4 would be incorrect since the first data reading differential pair comprises transistors, not the transistors comprise the first data reading differential pair).

Claim 1, line 8, "comprising" should be changed to --forming-- (since "comprising the second data reading differential pair" as recited on line 8 would be incorrect since the second data reading differential pair comprises transistors, not the transistors comprise the second data reading differential pair).

Claims 13 and 14 are objected to because they include the informalities of claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno (USP 6,218,878) in view of Reimann (USP 6,486,720).

With respect to claim 1, Figure 16 of Ueno discloses a flip-flop, which includes: a master circuit (161) comprising a first data reading differential pair (162), a first data-hold differential

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pair (163), and a first current source circuit (164) connected to the first data reading differential pair and the first data-hold differential pair; and a slave circuit (166) comprising a second data reading differential pair (167), a second data-hold differential pair (168), and a second current source circuit (169) connected to the second data reading differential pair and the second data-hold differential pair. Figure 16 of Ueno does not disclose that the first data-hold differential pair (163) comprises transistors of a size smaller than the transistors of the first data reading differential pair (162), and the second data-hold differential pair (168) comprises transistors of a size smaller than the transistors of the second data reading differential pair (167). However, Reimann discloses that the size of the transistors of data holding differential pair (HG) are set to be smaller than the size of the transistors of the data reading differential pair (SG) provides an advantage of increasing the cut-off frequency of the circuit (see abstract, and lines 12-15 of Col. 3). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the circuit in Figure 16 of Ueno by setting the size of the transistors in each of the respective differential data holding pair to be smaller than the size of the transistors in the respective differential data reading pair (i.e., setting the size of transistors in 163 to be smaller than the size of transistors in 162, and the size of transistors in 168 to be smaller than the size of transistors in 167) for the purpose of increasing the cut-off frequency of the circuitry, and thus improving the performance of the circuitry. Note that this modification meets all the limitations of claims 1, 13 and 14 and it is seen in the operation of the flip-flop in the modification of Figure 16 of Ueno that the flip-flop operates in an operating speed range in which the currents through the first and second data-hold differential pairs are lower than the currents through the first and second data reading differential pairs (because of transistors in the first and

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second data reading pairs are larger in size than the transistors in the first and second data holding pairs, respectively), and the currents through the first and second data-hold differential pairs are equal to or lower than the permissible current level of the transistors that constitute the data-hold differential pairs. Also note that, because all structures of the claims are fully met, so the functional limitations of these claims are also fully met in the operation of the flip-flop. It is also note that the sum of current through 162 and 163 is equal to the first current source (164, because current source 164 connected to provide tail current to 162 and 163), and that the same of current through 167 and 168 is equal to the second current source (169, because current source 169 connected to provide tail current to 167 and 168).

Response to Arguments

4. Applicant's arguments filed on 12/12/06 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directly to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Thursday from 8:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LONG NGUYEN
PRIMARY EXAMINER